

## ABSTRACT OF THE DISCLOSURE

A motion picture decoding apparatus according to the invention includes: a coefficient reducing circuit for removing orthogonal transform coefficients for high horizontal frequencies from a certain sized block of orthogonal transform coefficients obtained from an input signal, thereby reducing the number of transform coefficients to half; an inverse orthogonal transformation circuit for performing an inverse orthogonal transform operation by using the transform coefficients reduced by the coefficient reducing circuit, thereby obtaining, on a block-by-block basis, reconstructed image data or time-axis prediction error data horizontally compressed to 1/2; an adder for generating reconstructed image data horizontally compressed to 1/2, based on the time-axis prediction error data provided by the inverse orthogonal transformation circuit and on predetermined reference image data; and one or more than one reference image memories for storing reconstructed image data which is included in the reconstructed image data provided by the inverse orthogonal transformation circuit or the adder and is needed for generating the reference image data.